



# Feasibility of wind-deficient gas power generation





## Overview

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This report assesses the feasibility of connecting floating wind turbines to offshore facilities in order to reduce power generation from gas or diesel generators. However, this has escalated concerns about the instability of the power grid and surplus power generated because. The oil and gas sector is responsible for 3% of the UK's greenhouse gas (GHG) emissions, the majority of which come from gas and diesel power generation on offshore installations. This paper analyses how such a system would perform if based at the depleted Kinsale Gas Field in the Celtic Sea Basin off the south coast of Ireland.



## Feasibility of wind-deficient gas power generation



### Offshore conversion of wind power to gaseous fuels: Feasibility study

Simulations of the end-to-end systems were carried out using Simulink, and it was found that the conversion of offshore wind power to hydrogen or methane is a technically feasible option.

### Offshore conversion of wind power to gaseous fuels: Feasibility study

A proof-of-concept study is presented of a Power-to-Gas system that is located fully offshore. This paper analyses how such a system would perform if based at the depleted Kinsale ...



- All In One**  
Integrating battery packs
- High-capacity**  
50-500kWh
- Degree of Protection**  
IP54
- Operating Temperature Range**  
-20-60°C (Derating above 50°C)
- Intelligent Integration**  
integrated photovoltaic storage cabinet
- Rated AC Power**  
50-100kW
- Altitude**  
3000m(>3000m derating)

### Feasibility Study and Economic Analysis of PV/Wind-Powered ...

One environmentally responsible way to lessen the power crisis is to employ renewable energy sources effectively and efficiently. This paper proposes to develop a hydrogen energy storage-based green (or ...

### Using floating offshore wind to power oil and gas platforms

This report assesses the feasibility of connecting floating wind turbines to offshore facilities in order to reduce power generation from gas or diesel generators.



## Feasibility study of green hydrogen generation from wind power ...

Recent studies have revealed the potential use of wind power plants to operate green hydrogen generation plants considering the consistent resource availability during a year.



## A large-scale power-to-H2-to-power system adopting hydrogen ...

In the present work, a novel power-to-H2-to-power (PtH2tP) system is proposed for onshore wind accommodation, incorporating hydrogen mixed gas turbines (HMGTS).



## Offshore Conversion of Wind Power to Gaseous Fuels: ...

This paper analyses how such a system would perform if based at the depleted Kinsale Gas Field in the Celtic Sea Basin off the south coast of Ireland. An offshore wind farm is proposed as the

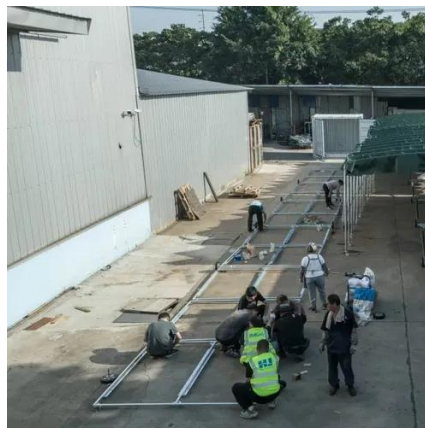


## A Comparative Feasibility Study of



## the Use of Hydrogen Produced ...

To resolve these issues, this study investigates two technical options that integrate a power-to-gas (PtG) process using surplus wind power and the gas turbine combined cycle (GTCC). ...



## Grid-integrated offshore Power-to-Gas

The offshore Power-to-Gas platform concept is promising and judged as technically feasible. The platform could be an attractive addition to onshore Power-to-Gas for certain energy transition sce ...



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